

# Extended Hydrologic Outlook

May 10, 2022

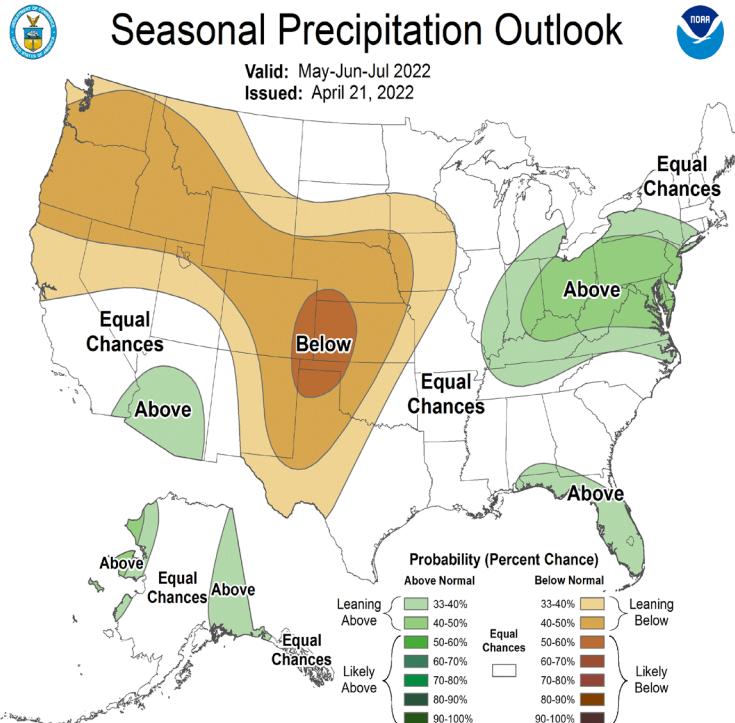
- The Climate Prediction Center (CPC) is forecasting above normal rainfall for May through July.
- La Niña is present and is favored to continue through the summer (59% chance during June-August 2022), with a 50-55% chance through the fall.
- Atlantic Multidecadal Oscillation (AMO) is currently in the warm phase:
  - Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase

# U. S. Seasonal Outlooks

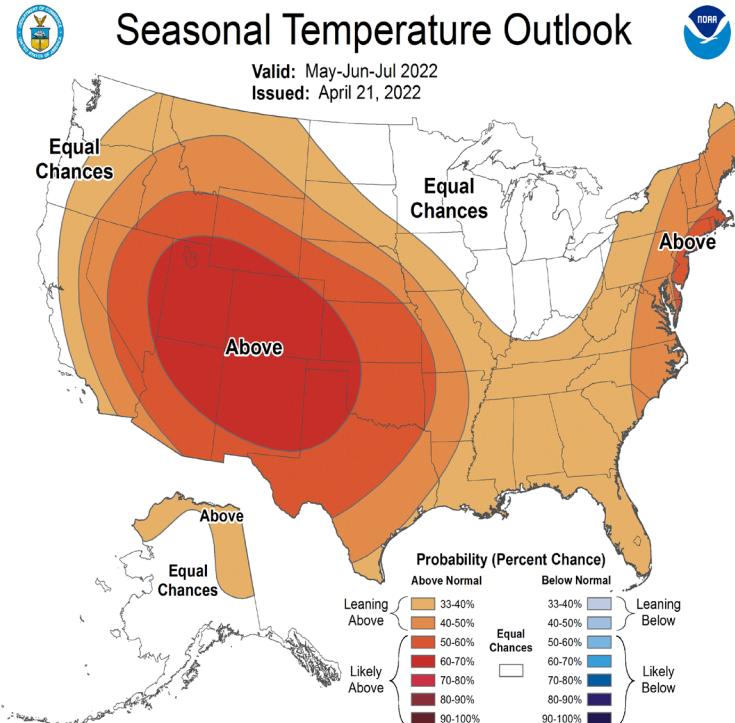
May - July 2022

The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.

## Precipitation



## Temperature

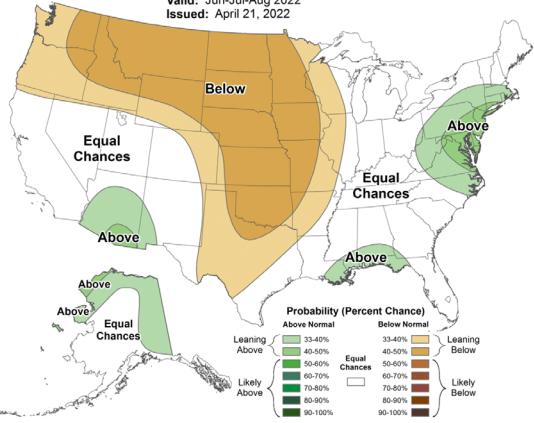


Jun-Jul-Aug 2022

### Seasonal Precipitation Outlook

Valid: Jun-Jul-Aug 2022  
Issued: April 21, 2022

NOAA

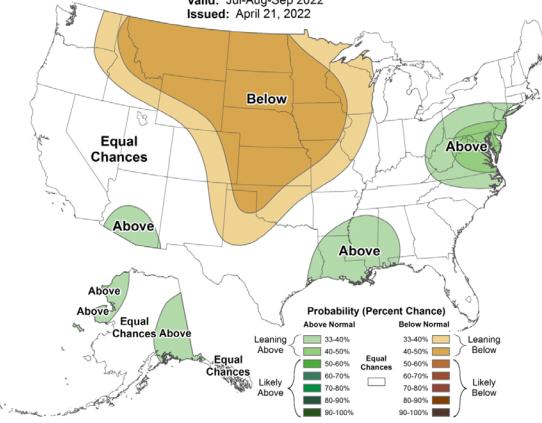


Jul-Aug-Sep 2022

### Seasonal Precipitation Outlook

Valid: Jul-Aug-Sep 2022  
Issued: April 21, 2022

NOAA

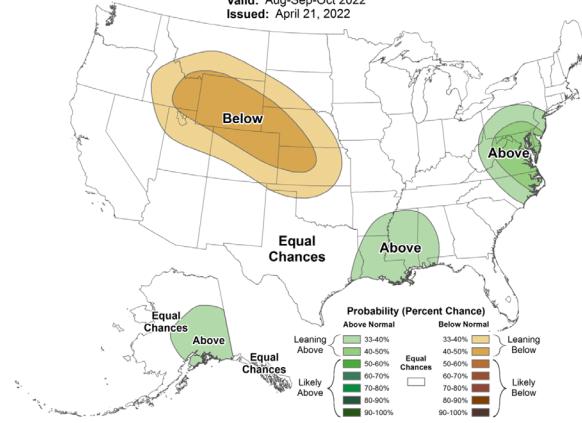


Aug-Sep-Oct 2022

### Seasonal Precipitation Outlook

Valid: Aug-Sep-Oct 2022  
Issued: April 21, 2022

NOAA

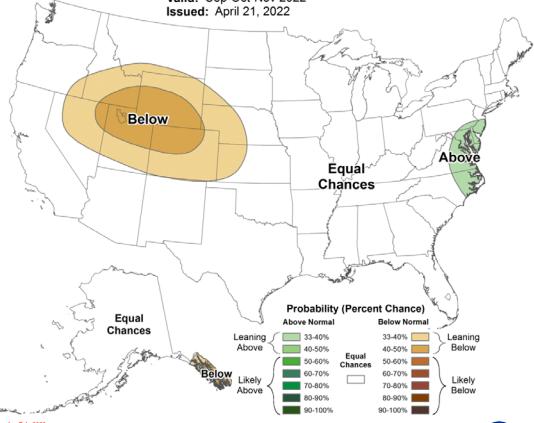


Sep-Oct-Nov 2022

### Seasonal Precipitation Outlook

Valid: Sep-Oct-Nov 2022  
Issued: April 21, 2022

NOAA

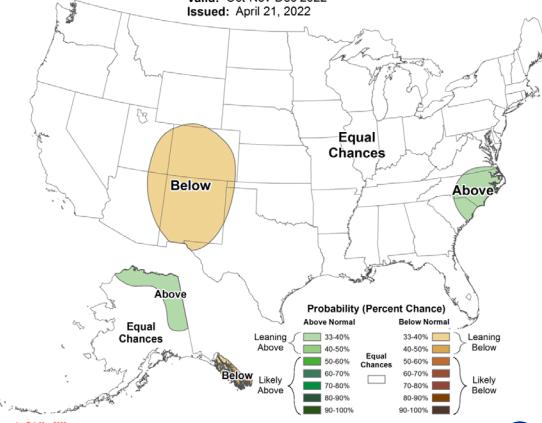


Oct-Nov-Dec 2022

### Seasonal Precipitation Outlook

Valid: Oct-Nov-Dec 2022  
Issued: April 21, 2022

NOAA

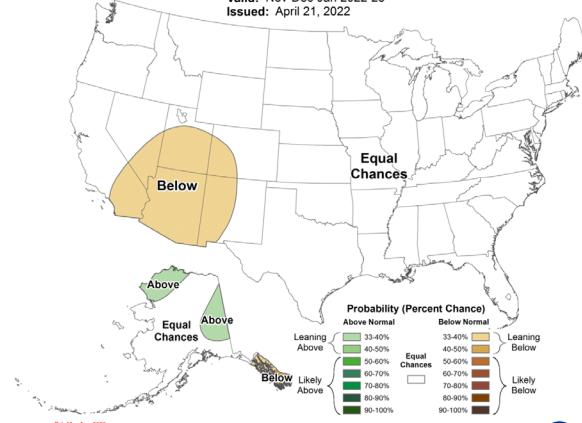


Nov-Dec-Jan 2022-23

### Seasonal Precipitation Outlook

Valid: Nov-Dec-Jan 2022-23  
Issued: April 21, 2022

NOAA

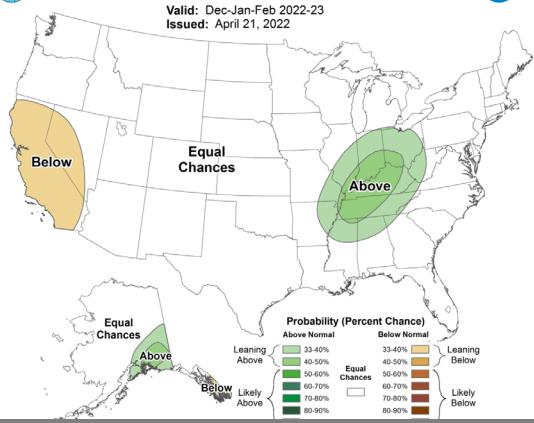


Dec-Jan-Feb 2022

### Seasonal Precipitation Outlook

Valid: Dec-Jan-Feb 2022-23  
Issued: April 21, 2022

NOAA

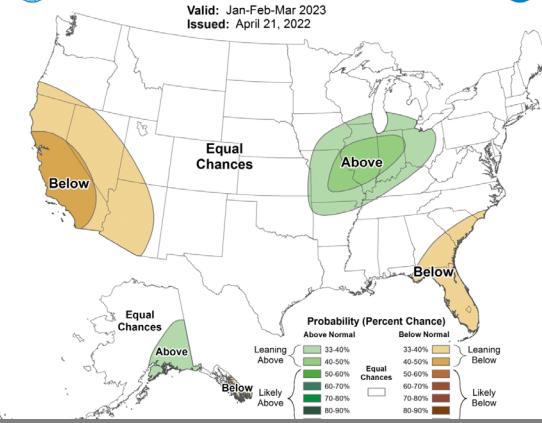


Jan-Feb-Mar 2023

### Seasonal Precipitation Outlook

Valid: Jan-Feb-Mar 2023  
Issued: April 21, 2022

NOAA

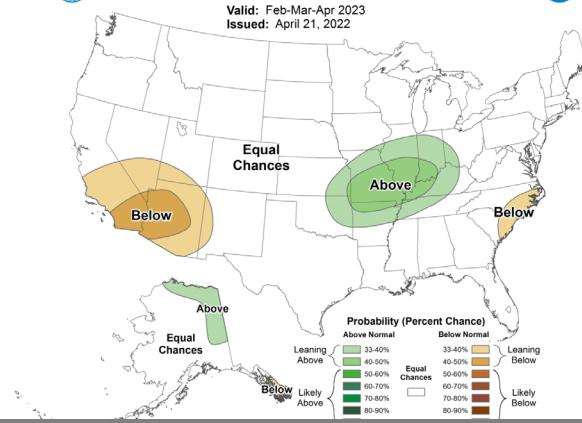


Feb-Mar-Apr 2023

### Seasonal Precipitation Outlook

Valid: Feb-Mar-Apr 2023  
Issued: April 21, 2022

NOAA



# Teleconnections to South Florida

Climate anomalies being related to each other at large distances:

## El Niño Southern Oscillation (ENSO)

El Niño increases the chances of a wetter-than-normal dry season and decreased tropical activity, La Niña increases the chances of a drier-than-normal dry season and increased tropical activity (both have most influence in south Florida from November through March)

## Pacific Decadal Oscillation (PDO)

Increases variations in south Florida dry season rainfall, positive leads to more El Niño events, negative leads to more La Niña events

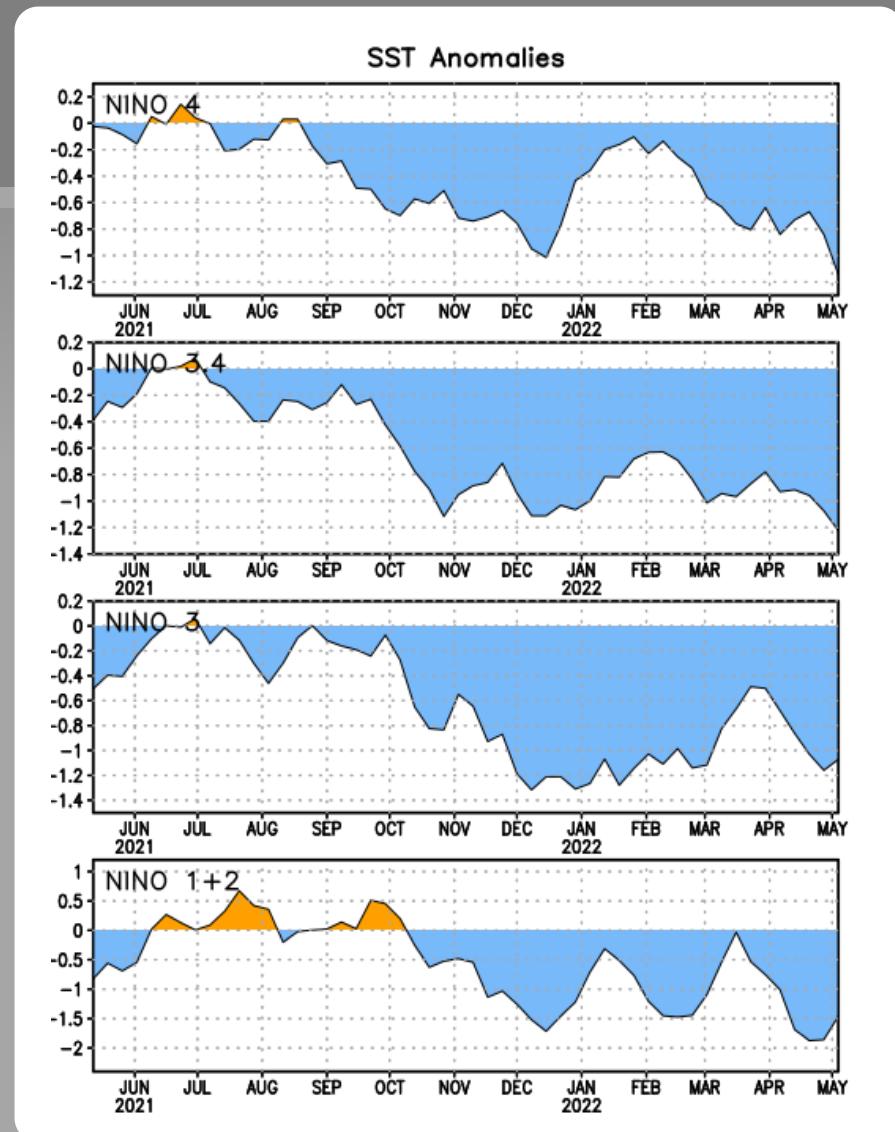
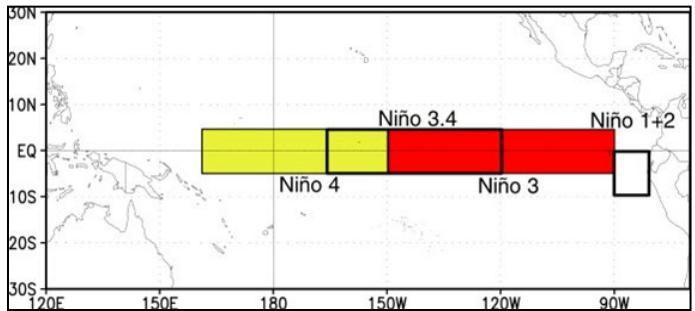
## Atlantic Multidecadal Oscillation (AMO)

Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase of the AMO, easterly flow toward south Florida affected by phase

# Niño Region SST Departures (°C) Recent Evolution

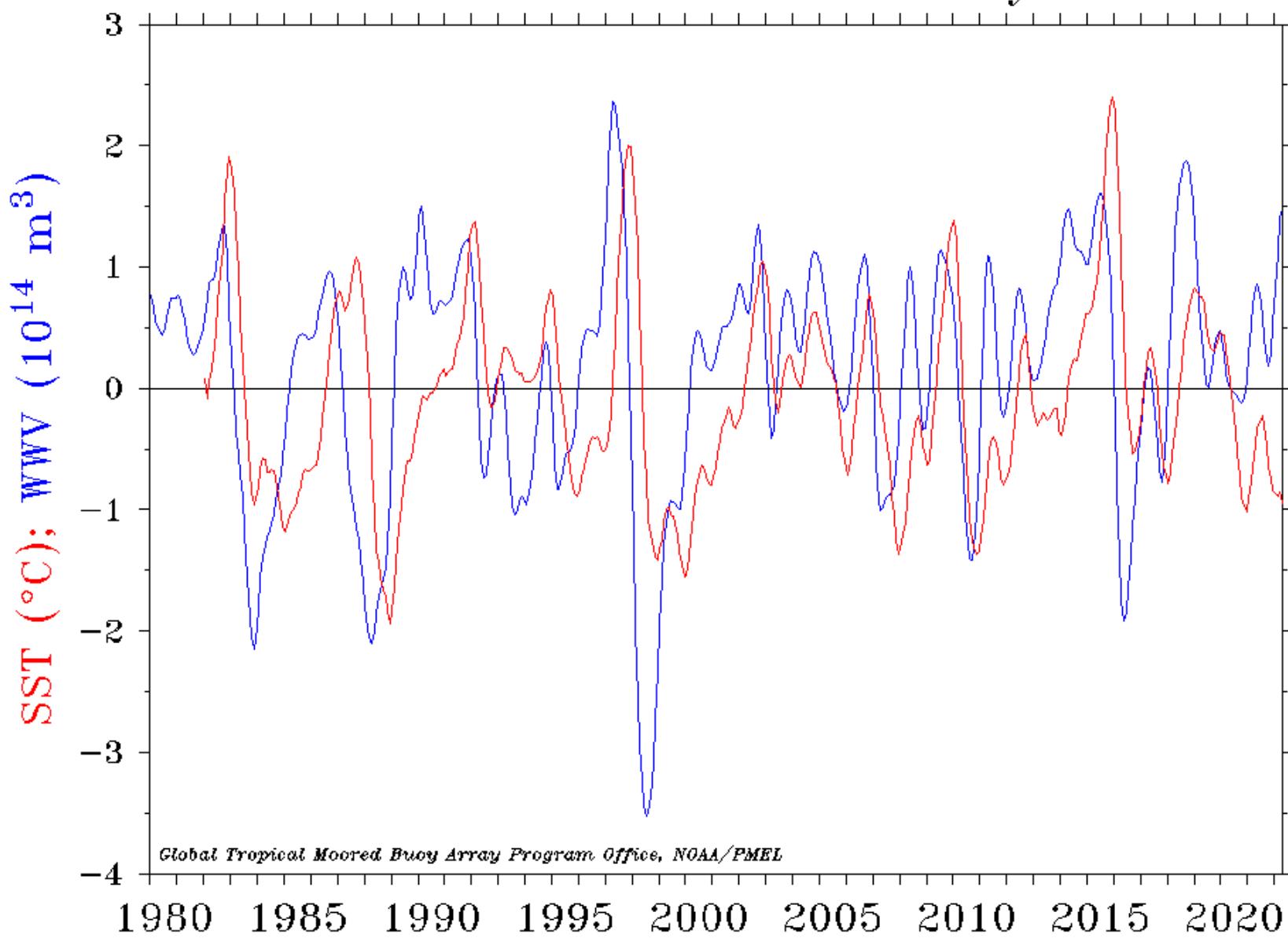
The latest weekly  
SST departures are:

Niño 4	-1.1°C
Niño 3.4	-1.2°C
Niño 3	-1.1°C
Niño 1+2	-1.5°C

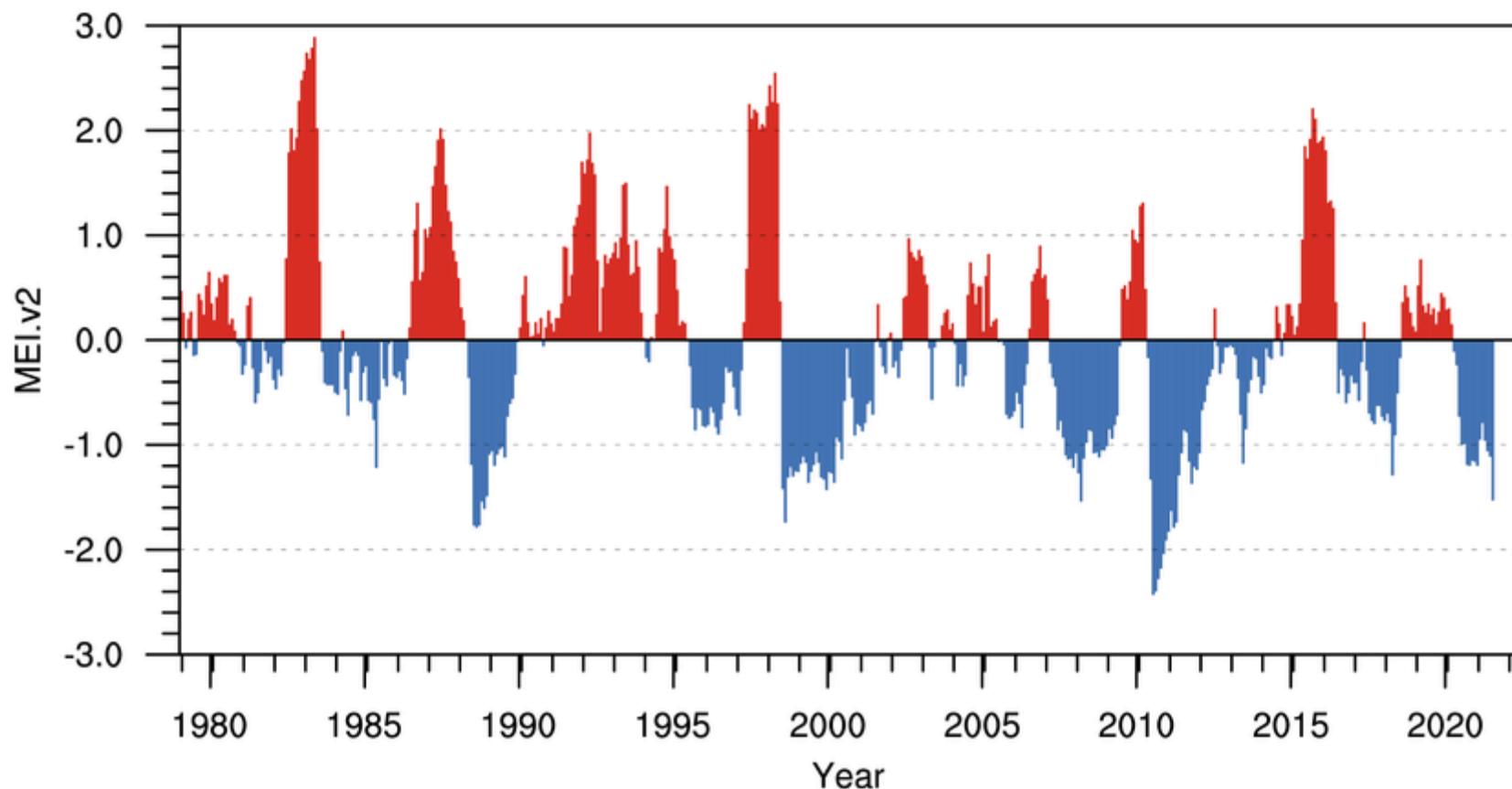


This weekly sea surface temperature data is based on OISSTv2.1 (Huang et al., 2021).

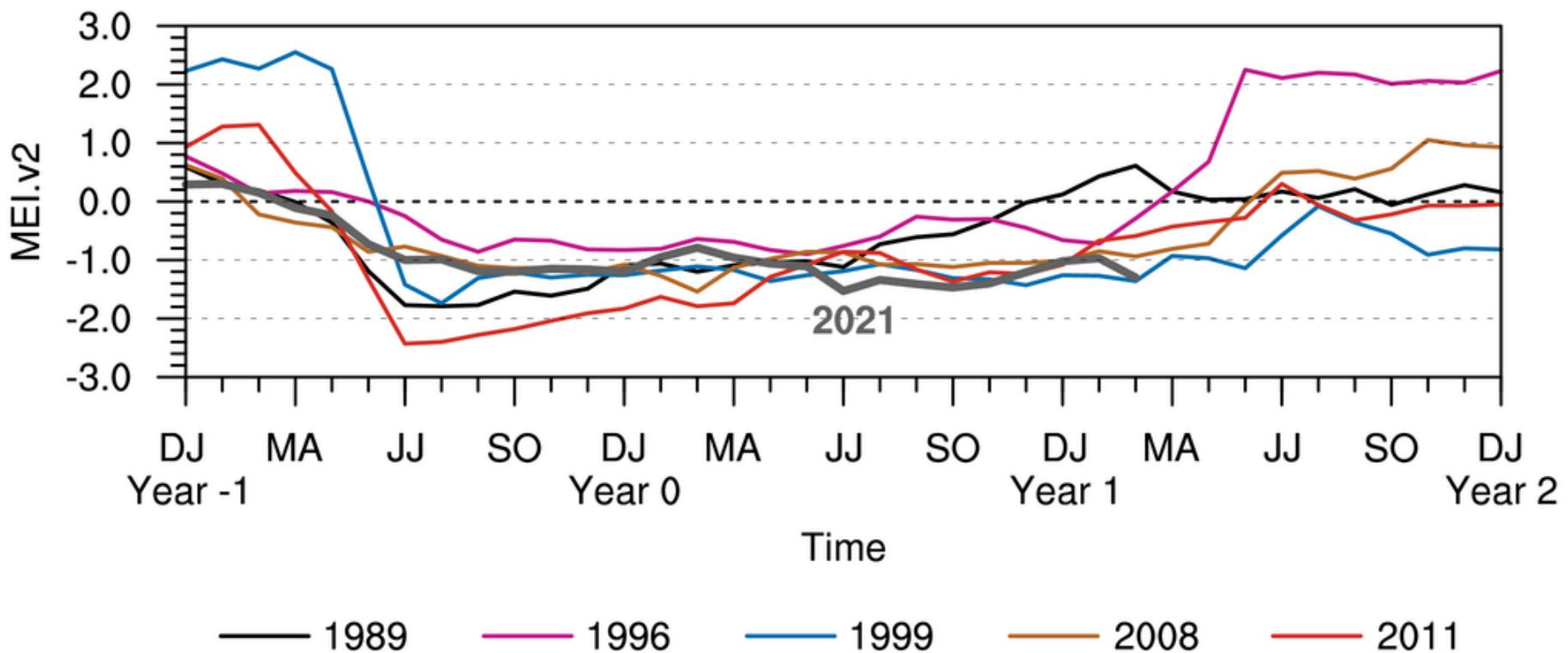
# Warm Water Volume ( $5^{\circ}\text{N}$ – $5^{\circ}\text{S}$ , $120^{\circ}\text{E}$ – $80^{\circ}\text{W}$ ) and NINO 3.4 SST Anomaly



## Multivariate ENSO Index Version 2

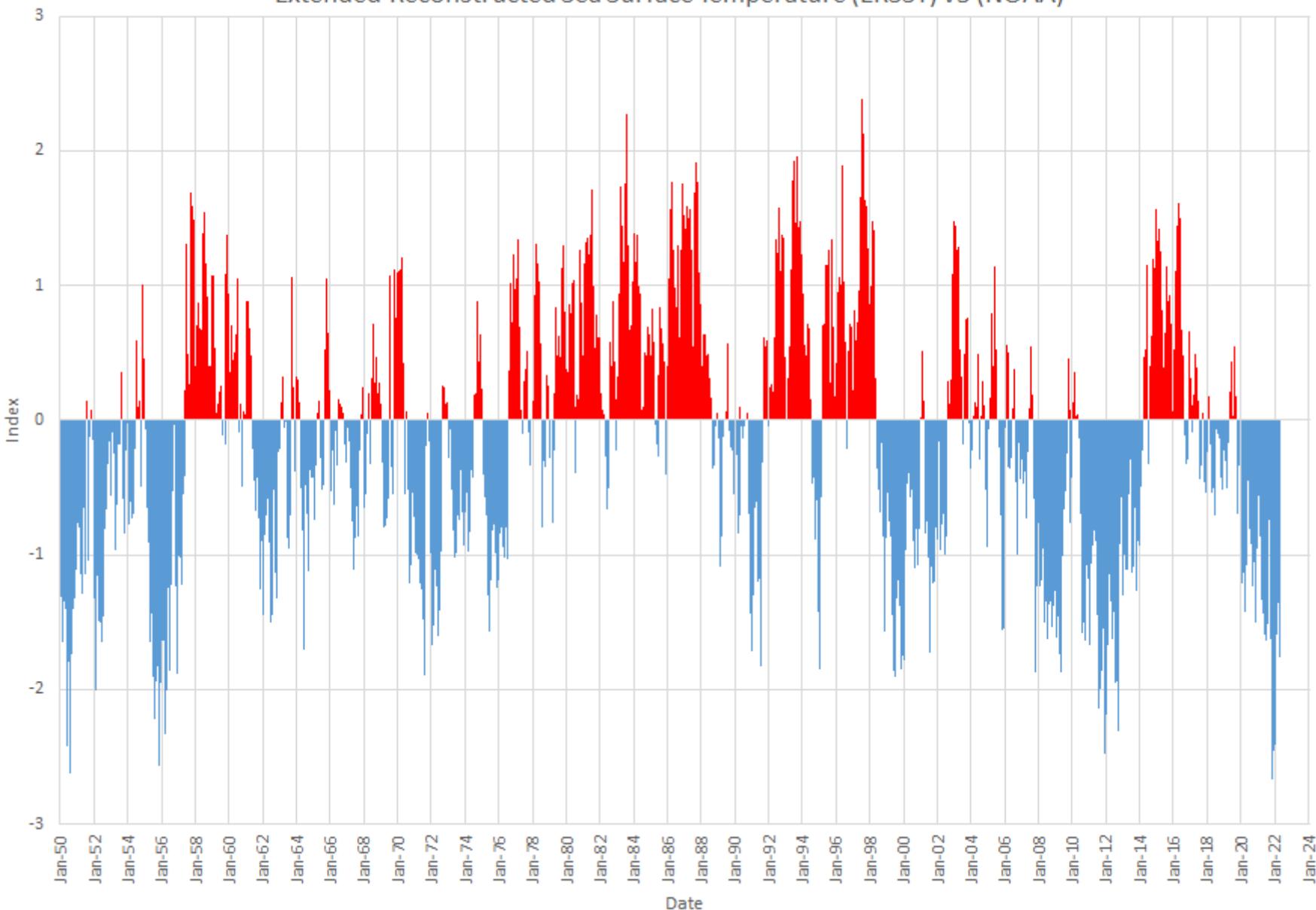


## MEI.v2 Evolution of Current ENSO Event in Historical Context

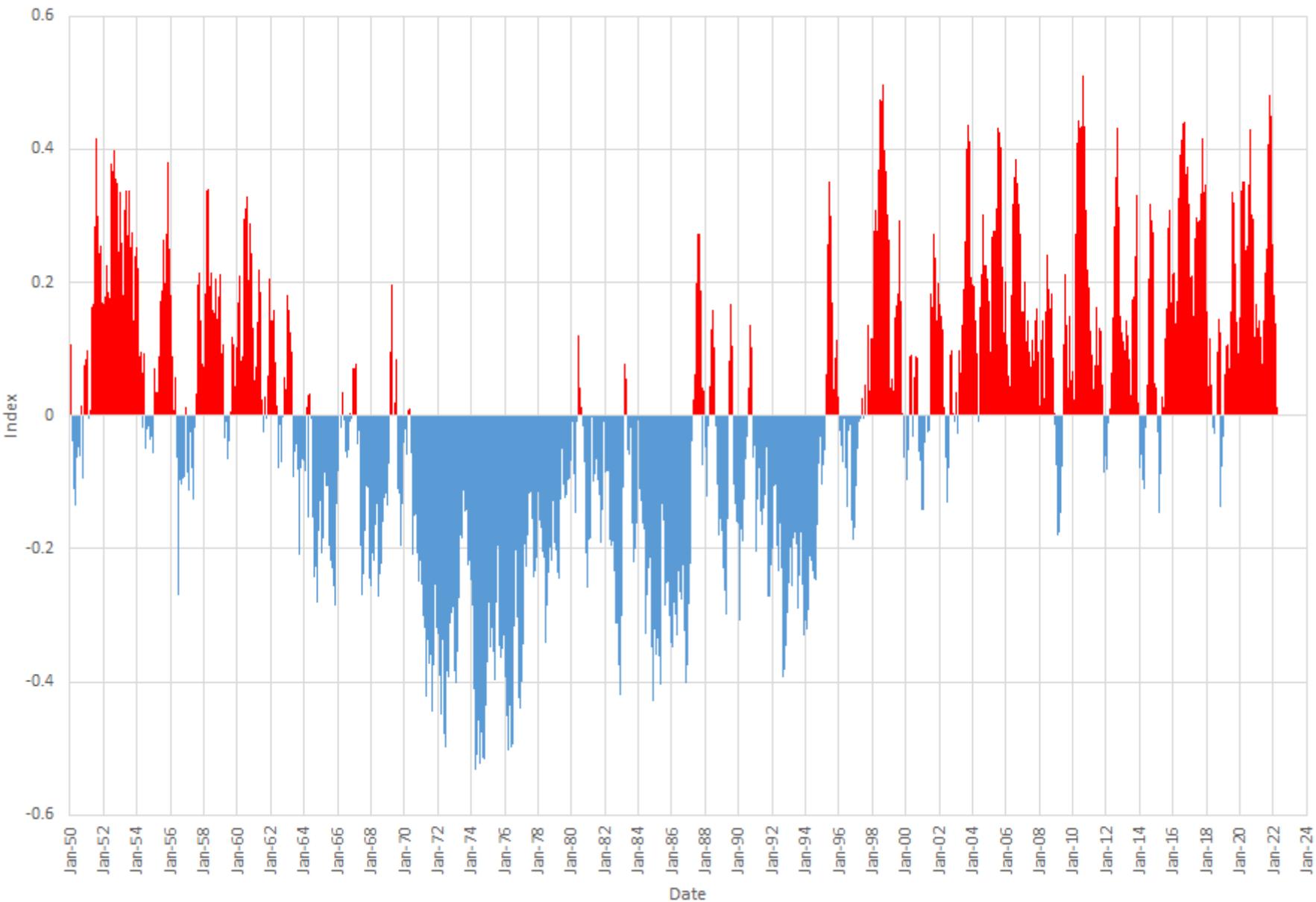


## Pacific Decadal Oscillation

### Extended Reconstructed Sea Surface Temperature (ERSST) v5 (NOAA)



## Index of the North Atlantic Temperatures (AMO) from Kaplan Extended SST V2 (NOAA)



# 2022 Tropical Outlook



## ATLANTIC BASIN SEASONAL HURRICANE FORECAST FOR 2022

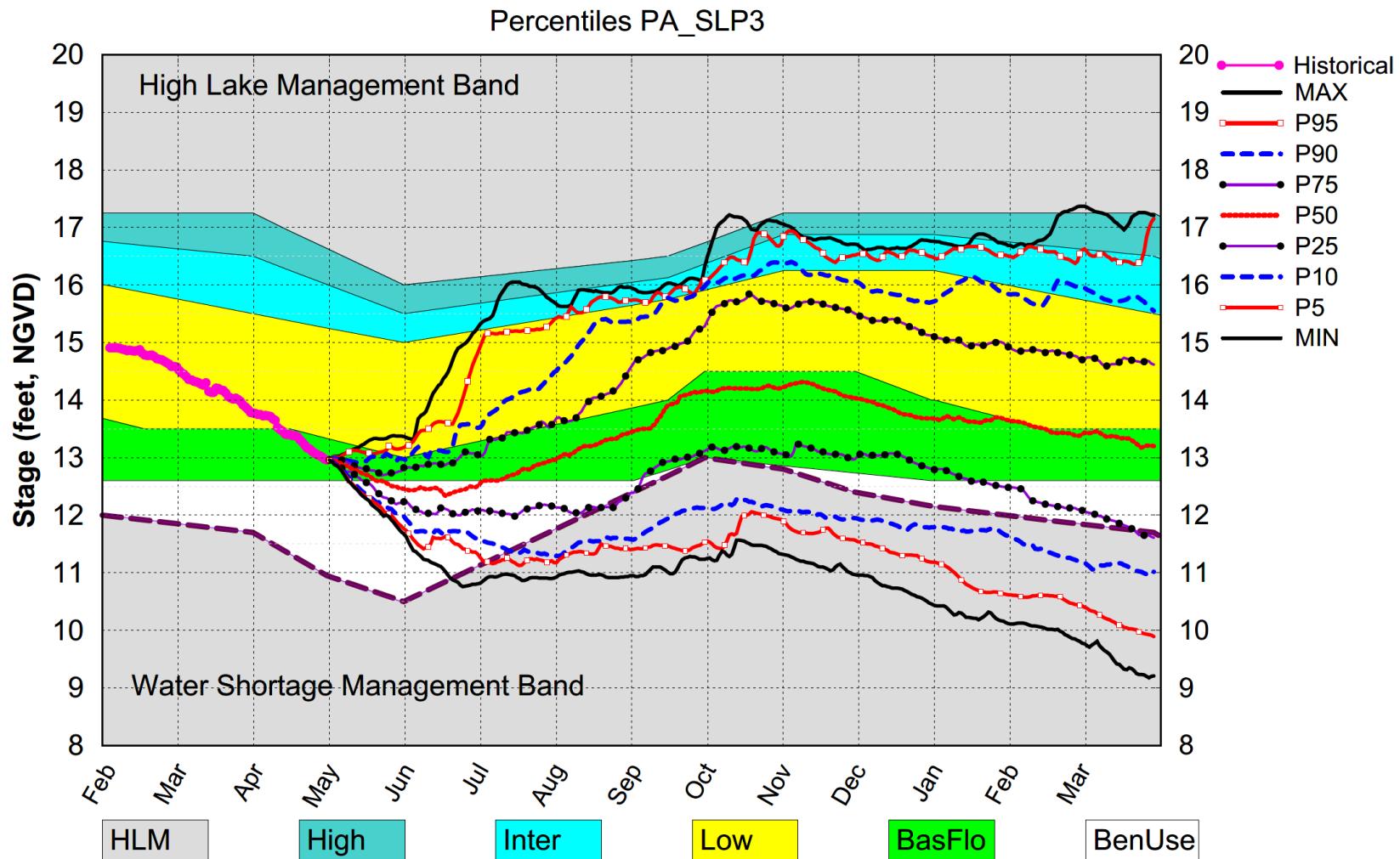
Forecast Parameter and 1991–2020 Average (in parentheses)	Issue Date 7 April 2022
Named Storms (NS) (14.4)	19
Named Storm Days (NSD) (69.4)	90
Hurricanes (H) (7.2)	9
Hurricane Days (HD) (27.0)	35
Major Hurricanes (MH) (3.2)	4
Major Hurricane Days (MHD) (7.4)	9
Accumulated Cyclone Energy (ACE) (123)	160
Net Tropical Cyclone Activity (NTC) (135%)	170

- Anticipate above-average activity
- No significant El Niño forecasted
- Caribbean and subtropical Atlantic sea surface temperatures are warmer than normal

# May DPA Assumptions

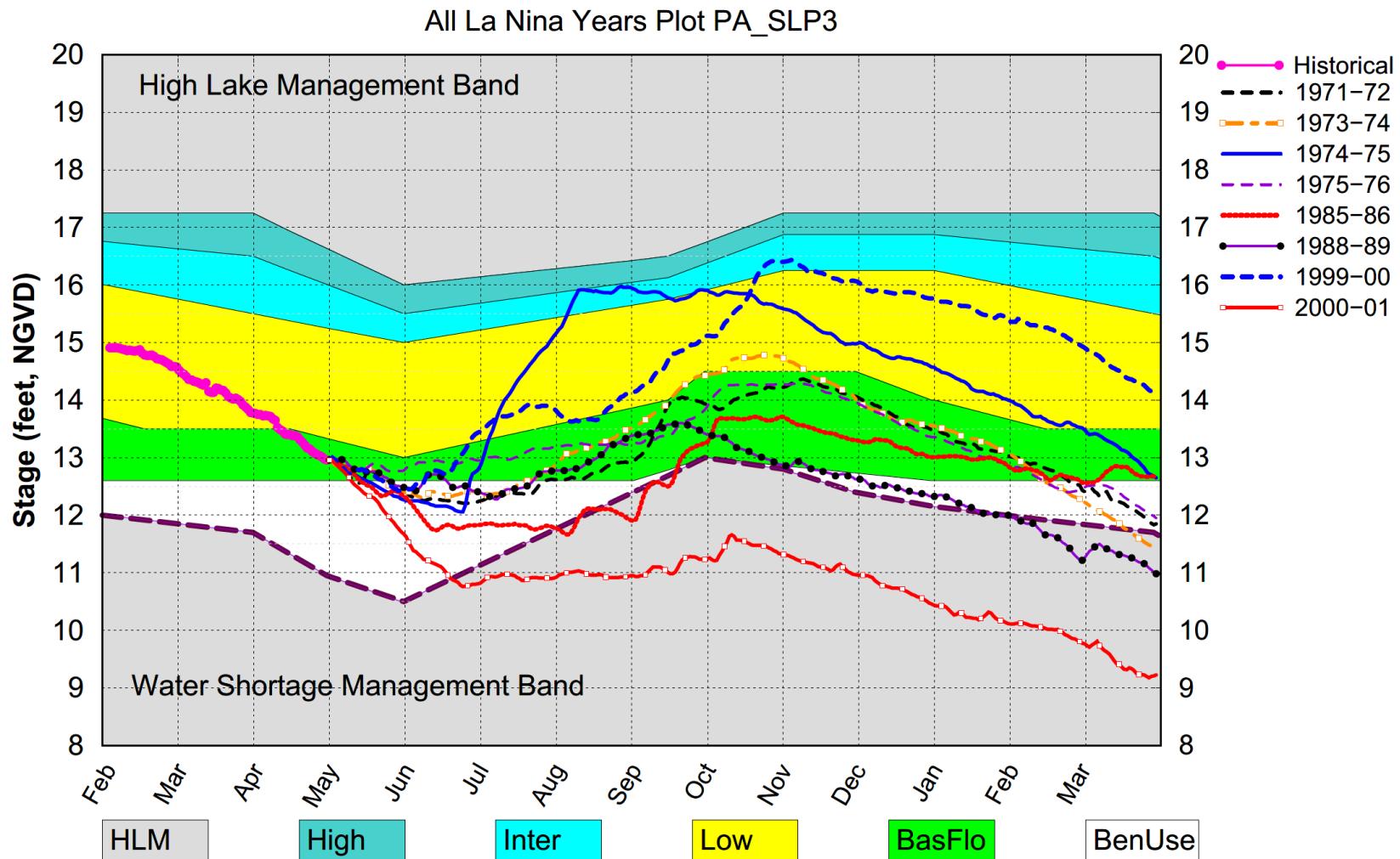
- The May 1, 2022 Dynamic Position Analysis (DPA) simulation is based on historical climatic conditions spanning the period 1965-2005. This DPA posting is made with the South Florida Water Management Model (SFWMM) v6.7.4 (Tamiami Trail) which includes the following improvement(s):
  - Improvements to include the Combined Operational Plan (COP)
- The May 1, 2022 DPA resets the initial stages for Lake Okeechobee (LOK) and the Water Conservation Areas (WCAs) on April 1<sup>st</sup> of each year of the DPA simulation and conditions the simulation to real time data during April to achieve real time stages on May 1<sup>st</sup> for LOK and WCAs.
- The Lake Okeechobee operations follow the Lake Okeechobee Regulation Schedule (LORS2008). Modeling assumptions are consistent with modeling performed for LORS2008 Supplemental Environmental Impact Statement (SEIS).
- LOK Temporary Forward Pump operations will be in place, whenever necessary, to improve water supply deliveries from LOK under low LOK stages.
- STA surface area values are modified to reflect current flowways under operation. STA depths are maintained to a minimum of 6 inches using Lake Okeechobee releases.

# Lake Okeechobee SFWMM May 2022 Position Analysis



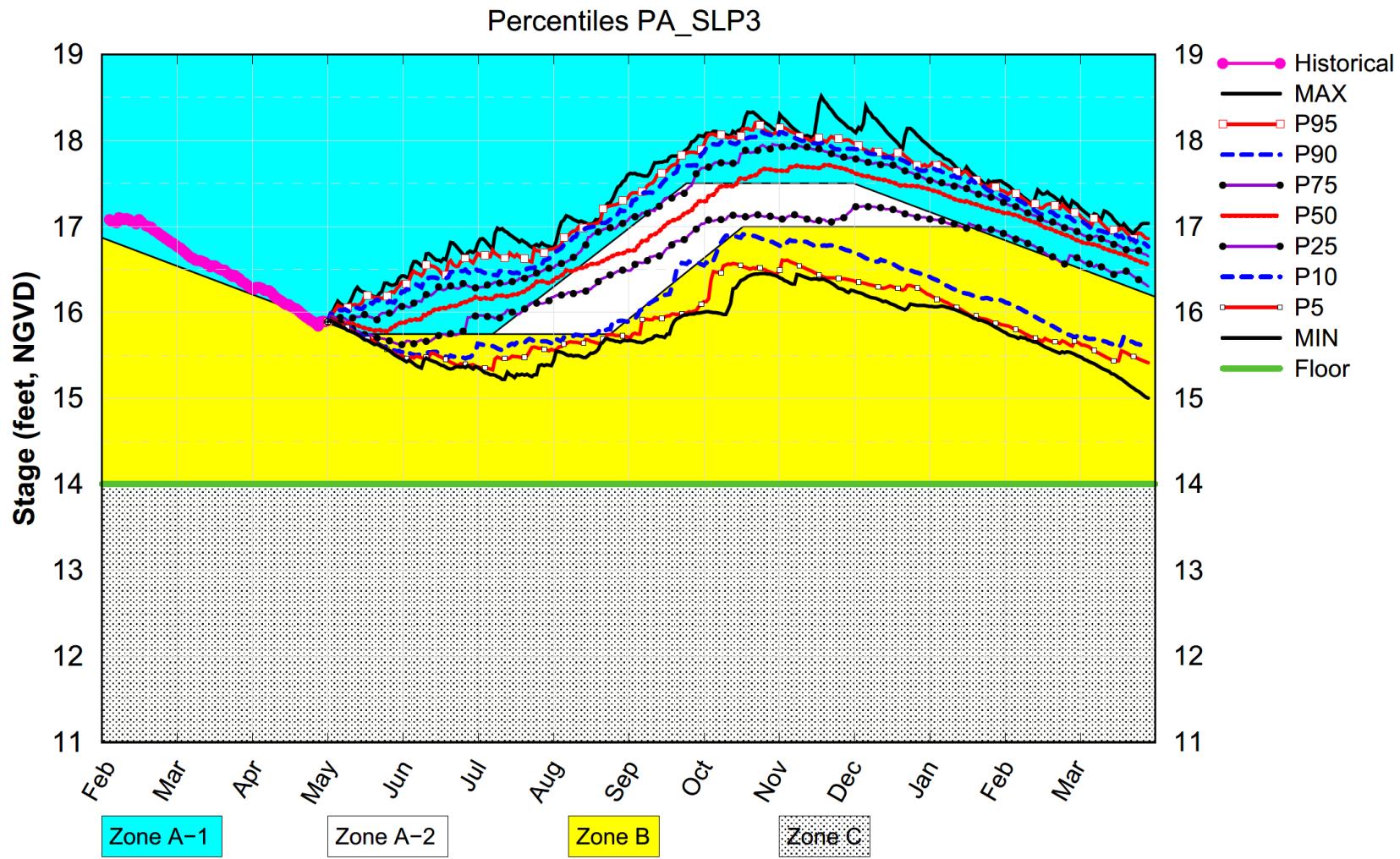
(See assumptions on the Position Analysis Results website)

# Lake Okeechobee SFWMM May 2022 Position Analysis



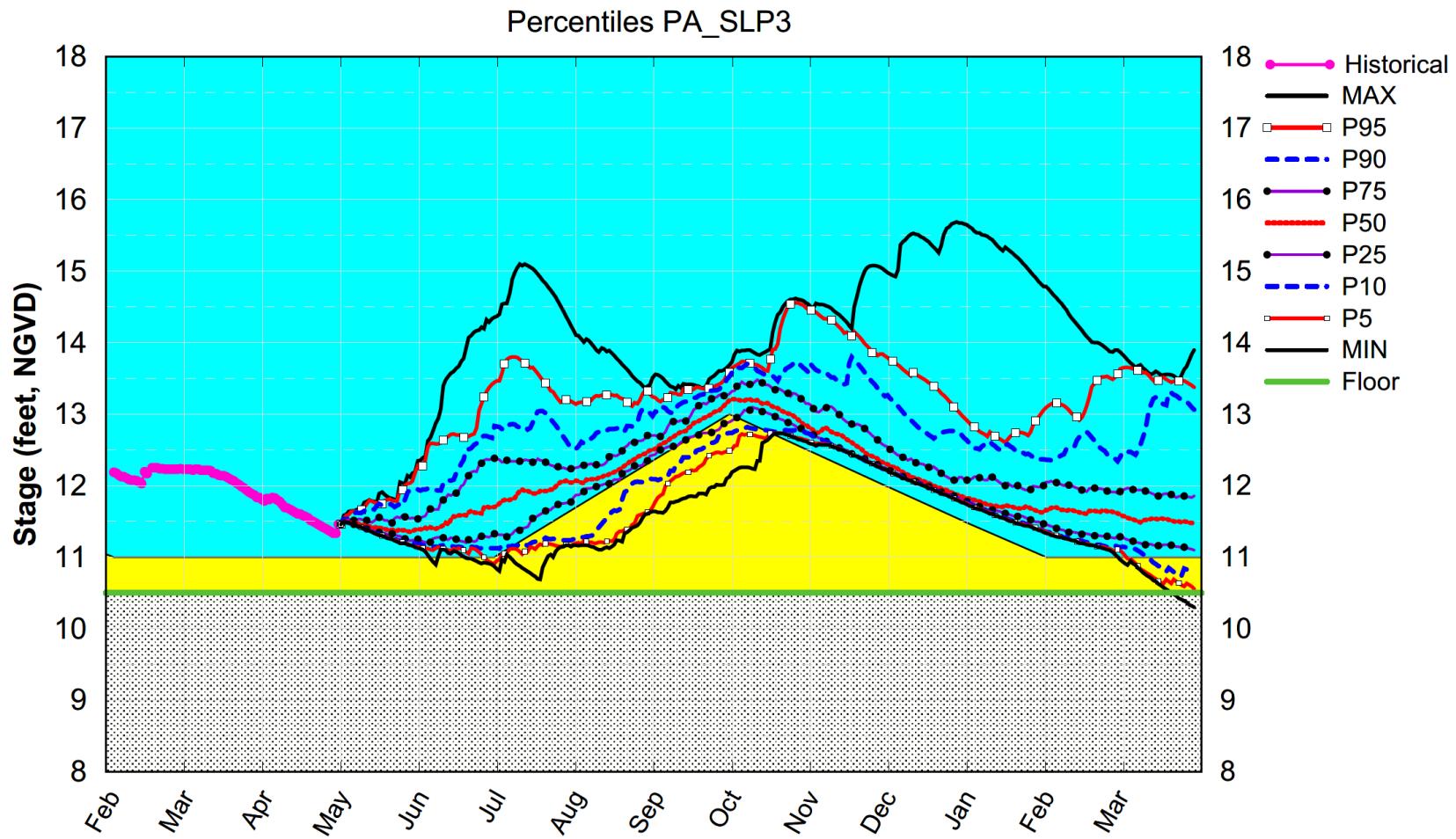
(See assumptions on the Position Analysis Results website)

# WCA1 SFWMM May 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

# WCA2A SFWMM May 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

# WCA3A SFWMM May 2022 Position Analysis

